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(In this book one can find solutions to all exercises in LANG's book [La1].)
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Symbolic Notations

iff	if and only if
L.H.S.	left hand side
R.H.S.	right hand side
$\mathbb{N} = \{ 1, 2, \dots \}$	set of natural numbers
$\mathbb{N}_0 = \{ 0, 1, 2, \dots \}$	set of natural numbers including zero
\mathbb{Z}	ring of integers
\mathbb{R}	field of real numbers, real axis
\mathbb{C}	field of complex numbers, complex plane
$\mathbb{C}_- = \mathbb{C} \setminus \{ x \in \mathbb{R} ; x \leq 0 \}$	slit plane along the negative real half-line
$\mathbb{C}^\bullet = \mathbb{C} \setminus \{0\}$	punctured plane
$\overline{\mathbb{C}} = \mathbb{C} \cup \{\infty\}$	RIEMANN sphere
$P^n(\mathbb{C})$	n -dimensional projective space
\mathbb{H}	upper half-plane
\mathbb{E}	open unit disk
S^1	unit circle
\mathcal{H}	HAMILTONian quaternions
$\operatorname{Re} z, \operatorname{Im} z$	real and imaginary part of a number z
$\operatorname{Re} f, \operatorname{Im} f$	real and imaginary part of a function f
\bar{z}	complex conjugate of z
$ z $	modulus, absolute value of z
$\operatorname{Arg} z \ (-\pi < \operatorname{Arg} z \leq \pi)$	principal value of the argument
$\operatorname{Log} z = \log z + i \operatorname{Arg} z$	principal value of the logarithm
$\overset{\circ}{D}$	set of interior points in D
\overline{A}	closure of A
$J(f, a) : \mathbb{C} \rightarrow \mathbb{C}$	JACOBI map of f in a
$\Delta = \partial_1^2 + \partial_2^2$	LAPLACE operator
$\int_\alpha f$	Line integral of f along the curve α
$l(\alpha)$	length of the piecewise smooth curve α

$\alpha \oplus \beta$	composition of two curves
α^{-}	inverse (reciprocal) curve
$\langle z_1, z_2, z_3 \rangle$	triangular path
$U_r(a), \overline{U}_r(a)$	open resp. closed disk centered at a with radius r
$\oint f$	integral along a circle
$\mathcal{O}(D)$	ring of analytic functions on D
\mathcal{A}	annular domain
$\mathcal{A}(a; r, R)$	annular domain with center a and radii r, R
$\chi(\alpha; a)$	index of the closed curve α around a
$\text{Res}(f; a)$	residue of f in a
$\text{Int}(\alpha)$	interior of the closed curve α
$\text{Ext}(\alpha)$	exterior of the closed curve α
S^2	unit sphere in \mathbb{R}^3
\mathfrak{M}	group of MÖBIUS transformations
$\text{Aut}(D)$	group of conformal self-maps of D
$\mathcal{M}(D)$	field of meromorphic functions on a domain D
$CR(z, a, b, c)$	cross ratio
$\Gamma(z), \Gamma(s)$	gamma function
$B(z, w)$	beta function
\wp	\wp -function of WEIERSTRASS
G_k	EISENSTEIN series of weight k
g_2, g_3	$g_2 = 60 G_4, g_3 = 140 G_6$,
$K(L)$	field of elliptic function for the lattice L
$K(\Gamma)$	field of elliptic modular functions for the modular group Γ
$\sigma(z)$	WEIERSTRASS' σ -function
$\vartheta(\tau, z), \vartheta(z, w)$	JACOBI theta function
$j(\tau)$	absolute invariant
$\Delta(\tau)$	discriminant
$\text{SL}(2, \mathbb{R})$	group of real 2×2 matrices with determinant 1
$\Gamma = \text{SL}(2, \mathbb{Z})$	elliptic modular group
$[L, k]$	vector space of all modular forms of weight k
$[L, k]_0 \subset [L, k]$	vector space of all cusp forms of weight k
\mathcal{F}	fundamental region of the modular group
Γ_ϑ	theta group
\mathcal{F}_ϑ	fundamental region of the theta group
$\Gamma[q]$	principal congruence group of level q
$\Theta(x), \psi(x)$	TSCHEBYSCHIEFF functions
$\pi(x)$	prime number function
$\text{Li}(x)$	integral logarithm
$\zeta(s)$	RIEMANN zeta function

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